

THINKING OUTSIDE THE (SAND) BOX

SLOWLY BUT SURELY, KURTZ BROS. INC. IS CONVINCING OWNERS, ARCHITECTS, AND ENGINEERS THAT QUALITY, COST-EFFECTIVE RECYCLED MATERIALS ARE THE WAY TO GO.

A prominent national foundry industry consortium, Foundry Industry Recycling Starts Today (FIRST), estimates that 80 percent of foundry byproducts—valued at some \$125 million dollars each year—are land-filled. But AGC member Kurtz Bros. Inc. is working hard to change that statistic by recycling commercial and industrial byproducts (including several foundry materials). Based in Independence, Ohio, Kurtz Bros. currently recycles hardwood byproducts, plant trimmings, sewage sludge, steel slag, and spent non-toxic foundry sand—a material used in two recent Ohio Turnpike Commission (OTC) projects.

THE BATTLE TO FOR ACCEPTANCE

Kurtz Bros. has been recycling foundry sand for more than 16 years, but according to Joe Alexander, Kurtz Bros. project sales manager, foundry sand has gained new credibility in construction in just the past few years. “In the past, most people perceived foundry sand only as a waste material,” says Alexander. “We knew, and EPA knew, that it wasn’t waste, but it took new standards and policy to begin to change the minds of engineers.”

A new Ohio state standard that took effect in the mid ’90s lists “process criteria” to select sands with certain measurable properties. The new benchmarks allowed Kurtz Bros.’s engineers to test the sand and prove its suitability for a given job. In another sign of progress, the Ohio Department of Transportation has begun recommending the use of spent foundry sand for certain types of jobs. Kurtz has made great headway, but many battles remain in convincing engineers of spent foundry sand’s wide range of uses.

OTC LEADS BY EXAMPLE

The OTC has led the pack in spent foundry sand use, having used more than 158,000 tons of it over the past few years. Kurtz Bros. recently provided the spent foundry sand for two recent Turnpike Commission projects, which both included the construction of reinforced embankments.



Above, for a \$51 million OTC project, AGC members Trumbull Corp. and National Engineering & Contracting Co. demolished and rebuilt the east- and west-bound bridges over the Cuyahoga River. Kurtz Bros. supplied around 54,000 tons of spent foundry sand for a terraced, landscaped embankment measuring 450 feet in length by 55 feet in width and depth.

For one \$51 million project, AGC members Trumbull Corp., Pittsburgh, Pa. and National Engineering & Contracting Co., Strongsville, Ohio, demolished and rebuilt the east- and westbound bridges over the Cuyahoga River. Kurtz Bros. supplied around 54,000 tons of spent foundry sand for a terraced, landscaped embankment measuring 450 feet in length by 55 feet in width and depth.

For another OTC project, valued at \$12 million, AGC member Great Lakes Construction Co., Hinckley, Ohio, added a

third lane on the eastbound side of the Ohio Turnpike just before the Cuyahoga River Bridge. First, adding a new lane required construction of a permanent embankment for the third lane to be built on. This embankment used a precast concrete modular wall structure—5,200 feet long, 20 feet wide, and 15 feet deep—provided by The Reinforced Earth Company (REC) based in Aurora, Ill. For the select granular backfill in the design, REC specified a material with properties similar to those of spent foundry sand. It was determined that spent foundry sand was indeed a good fit, and the project made use of about 54,000 tons of it.

To deliver the sand to both OTC projects over a period of 10 weeks, Kurtz Bros. commissioned 25 trucks to work eight- to ten-hour shifts each day for one job and another eight- to ten-hour shift at night for the other.

GROWING GREEN MARKETS

Over the past few years in Ohio, as elsewhere, several factors have contributed to increased use of recycled materials: the high cost of building highways; cost-effectiveness of recycled materials; growing acceptance of recycled materials; and growing research that is persuading engineers of the value of recycled materials.

Kurtz Bros. feels strongly that markets for its quality, cost-effective, “green” recycled materials are only just beginning to open up. As more and more people, including owners, architects, and engineers become aware of the value of recycled materials as much more than “waste products,” the amount of recycled materials used in construction should continue to grow dramatically.

FOR MORE INFORMATION

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About recycled foundry products, contact Foundry Industry Recycling Starts Today.

Call: (413) 229-2466

Online: www.foundryrecycling.org

A FEW GOOD USES

FOR NONTOXIC SPENT FOUNDRY SAND

Below are a few uses for which spent foundry sand is being successfully marketed:

- ☐ Construction fill/ road subbase
- ☐ Flowable fill
- ☐ Grouts and mortars
- ☐ Potting and specialty soils
- ☐ Cement manufacturing
- ☐ Pipe bedding
- ☐ Asphalt
- ☐ Cemetery vaults
- ☐ Bricks and pavers
- ☐ Landfill daily cover